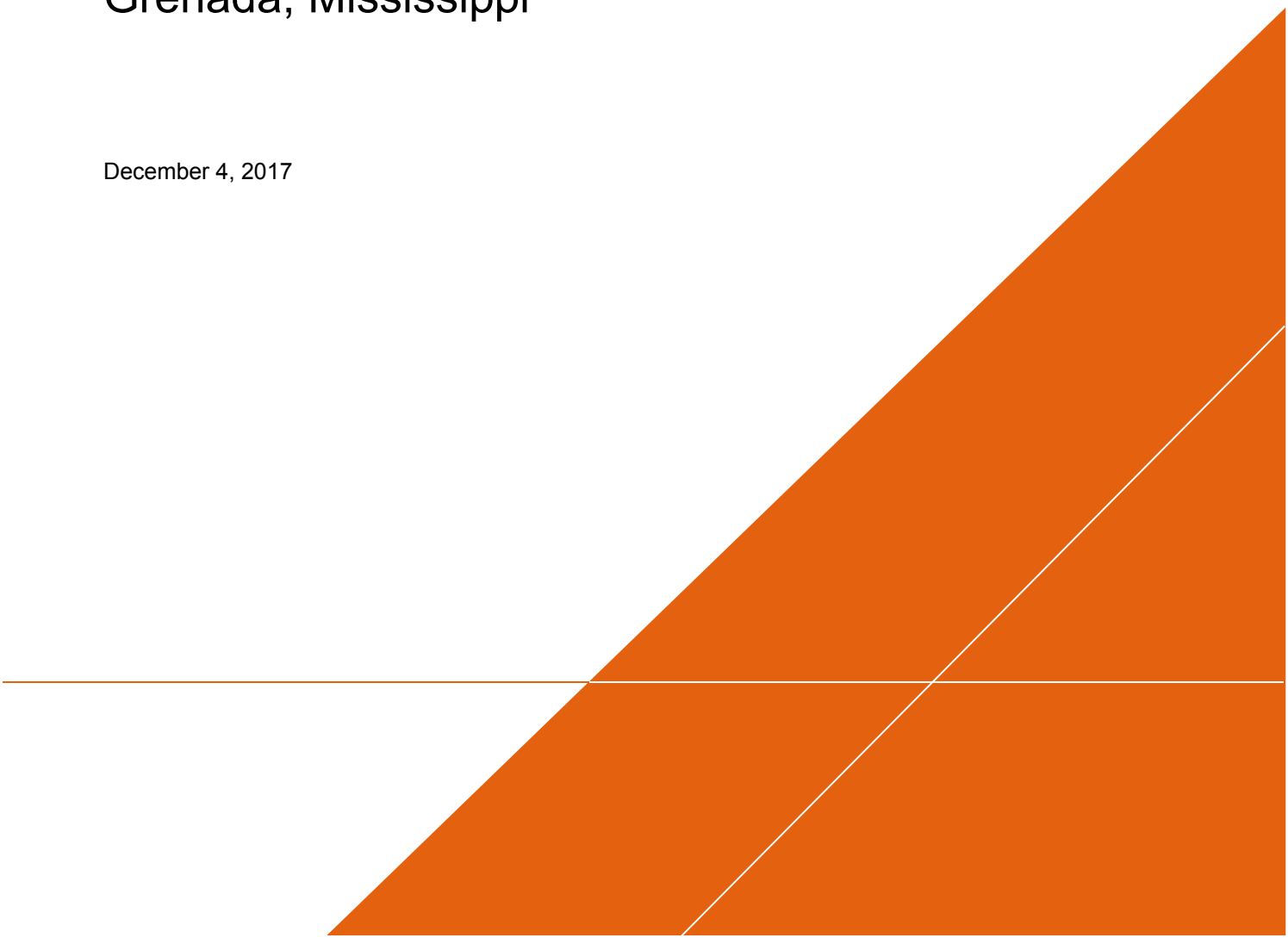
ARCADIS Design & Consultancy for natural and built assets

Grenada Manufacturing, LLC

FACILITY INDOOR AIR MONITORING REPORT

Grenada, Mississippi

December 4, 2017



FACILITY INDOOR AIR MONITORING REPORT

Grenada, Mississippi

I have reviewed this document in sufficient depth to accept full responsibility for its contents.

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CONTENTS

TABLE

FIGURES

APPENDIX

1 INTRODUCTION

This Facility Indoor Air Monitoring Report details the indoor air monitoring activities conducted at the request of the U.S. Environmental Protection Agency (USEPA) at the former Grenada Manufacturing facility (current Ice Industries facility), located in Grenada, Mississippi (the "Facility"; Figure 1). The indoor air monitoring was conducted using passive samplers prior to installation of the sub-slab depressurization system (SSDS), during operation of the SSDS enhanced pilot study, and after completion of the SSDS enhanced pilot study to evaluate the effectiveness of the SSDS on indoor air quality. A *Revised Facility Indoor Air Monitoring Plan* (Plan) was submitted to the USEPA on July 13, 2017. The Plan was subsequently approved by the USEPA in an email dated July 14, 2017. The indoor air monitoring was conducted in accordance with the USEPA *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (June 2015) and, where appropriate, USEPA Region 4 protocols.

2 SCOPE OF WORK

As specified in the Plan, Arcadis U.S., Inc., conducted the following tasks:

- Indoor air monitoring at specific intervals using passive samples to determine variability in temporal indoor air concentrations.
- Ambient air sampling.
- SUMMA® canister sampling during one event to compare to passive sampler data.

2.1 Indoor Air Sampling (Radiello®)

Radiello® passive samplers (RAD-130 solvent desorption type or RAD-145 desorption type) have previously been deployed at the Facility. Sample locations are depicted on Figure 2.

This indoor air monitoring program was developed to collect additional indoor air data for further evaluation based on data previously collected at the Facility. Six specific locations were selected for this indoor air monitoring program. These sample locations are depicted on Figure 2 and include the following:

- A-5
- B-3
- B-4
- B-6
- B-8
- B-9

During each sample duration, Radiello® passive samplers were securely positioned at breathing height (approximately 5 feet above the ground). At the start of passive sampling, the sorbent media were

removed from the protective glass tube, inserted into the diffusive body, and connected to the badge. Once the sample collection duration was achieved, the sorbent media were removed from the diffusive body, transferred back into the protective glass tube, and sealed for shipment to the laboratory.

2.2 Indoor Air Sampling (SUMMA®)

At the request of the USEPA, SUMMA® canisters were used to collect 24-hour duration samples from the same six locations noted above during the initial event. Six-liter polished stainless-steel SUMMA® canisters with flow controllers calibrated for a 24-hour sample collection were used. These canisters were cleaned and certified by the laboratory. During sample collection, the indoor air canisters were securely positioned in the breathing zone (approximately 5 feet above the ground). A final canister vacuum on the flow controller was recorded. At the complete of sampling, the canister was closed and the flow controller removed. The canisters were gauged with an independent gauge and the final vacuums recorded. The canisters were then closed and sealed with a brass Swagelok® cap for shipment to the laboratory.

2.3 Frequency of Air Sampling

Indoor air samples at the six locations were deployed for 24 hours and for 28 days prior to installation of the SSDS, during operation of the SSDS enhanced pilot study, and after completion of the SSDS enhanced pilot study. At the request of the USEPA, 24-hour SUMMA® canisters were collected during the initial event at all six locations. The program was conducted for 3 months to coincide with the different phases of the SSDS enhanced pilot study. Additionally, at the request of the USEPA, 7-day Radiello® passive samples were deployed at two locations in the period prior to the SSDS operation and again during the SSDS operation. Based on historical data, the locations selected for the 7-day Radiello® passive samplers were B-4 and B-6.

Sample Duration	Sampling Events	Sample Locations
24 hours	Three	Six
7 days	Two	Two
28 days	Three	Six

2.4 Ambient Air Sampling

Ambient air samples were collected outdoors using passive samplers during collection of indoor air samples to evaluate potential background contaminant sources from outside the structures. Ambient air samples were collected during each of the sample durations using the same Radiello® passive samplers (RAD-130 solvent desorption type). During each collection process, the passive sampler was securely positioned at breathing height (approximately 5 feet above the ground) in one location southwest of the Facility, as shown on Figure 3.

The ambient air samples were placed so as to minimize potential contamination from extraneous sources. The ambient air samples were positioned away from wind shields such as trees or bushes and at least 15 feet away from any buildings. Collection of the ambient air samples followed the same methodology as

described for indoor air samples. Meteorological data (temperature, precipitation, humidity, barometric pressure, and wind speed/direction) were collected before and during sampling activities.

3 AIR SAMPLE LABORATORY ANALYSIS

Air samples were analyzed for 10 of the 11 previously approved list of volatile organic compounds (VOCs) using the RAD 130 solvent extraction method. The VOCs include:

- 1,2-Dichloroethane (1,2-DCA)
- 1,1-Dichloroethene (1,1-DCE)
- cis-1,2-Dichloroethene (cis-1,2-DCE)
- trans-1,2-Dichloroethene (trans-1,2-DCE)
- 1,1,2-Trichloroethane (1,1,2-TCA)
- Benzene
- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- Toluene
- Vinyl chloride

Methylene chloride is the only constituent from the list of approved VOCs that cannot be analyzed by the solvent extraction method by the laboratory utilized, Eurofins Air Toxics in Folsom, California. Methylene chloride has not been a primary air constituent during the evaluation. The concentrations for 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, 1,1,2-TCE, and vinyl chloride are estimated due to unpublished uptake rates for those constituents. Air samples collected with SUMMA® canisters were analyzed for the 11 previously approved list of VOCs.

Sample media were ordered from the certified laboratory, Eurofins Air Toxics, using proper quality assurance/quality control (QA/QC) procedures and chain-of-custody protocols. Analytical results for the Radiello® passive samples were reported in micrograms and micrograms per cubic meter ($\mu g/m^3$). Analytical results for the SUMMA® canister samples were reported in parts per billion by volume and $\mu g/m^3$. The laboratory was instructed to report data with constituent detection limits at or below screening levels. To minimize potential effects on the sample integrity, samples were shipped within 24 hours following collection, and the samples were not chilled during storage and shipping. To improve the confidence in measured concentrations, duplicate samples were collected and analyzed for the same parameters as the parent samples. One duplicate sample was collected during each sampling event.

4 AIR SAMPLE RESULTS

As part of the indoor air monitoring program, a total of 53 indoor air and associated ambient air samples were collected from June 28, 2017, to October 9, 2017, to evaluate indoor air concentrations prior to operation of the SSDS, during operation of the SSDS and following shutdown of the SSDS. The SSDS enhanced pilot study began operation on August 12, 2017, and was shut down on September 11, 2017. The indoor air results are presented in Table 1, the ambient air results are presented in Table 2, and the

QA/QC results are presented in Table 3. A comprehensive summary of all indoor air, ambient air, and QA/QC results is presented in Appendix A. The analytical laboratory and data validation reports are provided in Appendix B.

4.1 Indoor Air Sample Results Prior to the Sub-Slab Depressurization System Operation

Prior to operation of the SSDS, samples were collected for all three sample durations (24-hour, 7-day, and 28-day). The first set of indoor air samples for the 24-hour sample duration was collected on June 28, 2017, using both Radiello® passive samplers and SUMMA® canisters. Similar concentrations were reported for the sample methods. Radiello® passive sampler TCE concentrations ranged between 6.4 and 28 µg/m^3, and the SUMMA® canister TCE concentrations ranged between 4.8 and 25 µg/m^3.

The first set of indoor air samples for the 7-day sample duration was collected from July 13, 2017, to July 20, 2017, using Radiello® passive samplers. TCE concentrations were 11.0 µg/m^3 at B-4 and 6.1 µg/m^3 at B-6.

The first set of indoor air samples for a 28-day sample duration was collected from July 13, 2017, to August 10, 2017, using Radiello® passive samplers. TCE concentrations ranged from 6.6 to 26 µg/m^3. Similar TCE concentrations were observed for the 7-day and 28-day sample durations.

TCE Concentrations Prior to SSDS Operation

Location	7-Day Sample Duration (µg/m^3)	28-Day Sample Duration (µg/m^3)
B-4	11.0	10
B-6	6.1	6.6

4.2 Indoor Air Sample Results During the Sub-Slab Depressurization System Operation

During operation of the SSDS, samples were collected for all three sample durations (24-hour, 7-day, and 28-day). A decrease in TCE concentrations was observed for all sample durations in samples collected during the SSDS operation as compared to the TCE concentrations detected prior to the operation of the SSDS.

The second set of indoor air samples for a 24-hour sample duration was collected on August 31, 2017, using Radiello® passive samplers. TCE concentrations ranged from not detected above the laboratory reporting limit (< 0.98 µg/m^3) to 5.2 µg/m^3.

The second set of indoor air samples for a 7-day sample duration was collected from August 31, 2017, to September 7, 2017, using Radiello® passive samplers (B-4 and B-6). TCE concentrations were 1.7 µg/m^3 at B-4 and 2.4 µg/m^3 at B-6.

The second set of indoor air samples for a 28-day sample duration was collected from August 31, 2017, to September 11, 2017, using Radiello® passive samplers. TCE concentrations ranged from 0.93 to 6.3 µg/m^3. Similar TCE concentrations were observed for the 7-day and 28-day sample durations.

TCE Concentrations During SSDS Operation

Location	7-Day Sample Duration (µg/m^3)	28-Day Sample Duration (µg/m^3)
B-4	1.7	1.8
B-6	2.4	2.6

4.3 Indoor Air Sample Results After the Sub-Slab Depressurization System Operation

After the shutdown of the SSDS, samples were collected for two sample durations (24-hour and 28-day). While TCE concentrations observed during both sample durations were higher as compared to the TCE concentrations detected during the operation of the SSDS, TCE concentration remained lower than TCE concentrations detected prior to the operation of the SSDS.

The third set of indoor air samples for a 24-hour sample duration was collected on September 27, 2017, using Radiello® passive samplers. TCE concentrations ranged from 3.1 µg/m^3 to 7.8 µg/m^3.

The third set of indoor air samples for a 28-day sample duration was collected from September 27, 2017, to October 9, 2017, using Radiello® passive samplers. TCE concentrations ranged from 2.0 µg/m^3 to 7.6 µg/m^3.

4.4 Ambient Air Sample Results

Ambient air samples were collected using Radiello® passive samplers southwest of the Facility during this indoor air monitoring program, as shown on Figure 3. VOC concentrations were not detected above the laboratory reporting limit in the 24-hour and 7-day ambient air samples. Concentrations of TCE were detected in the 28-day ambient air samples prior to the SSDS operation at 0.044 µg/m^3, during the SSDS operation at 0.048 µg/m^3, and after the SSDS operation at 0.082 µg/m^3. Concentrations of benzene and toluene were detected in the 28-day ambient air samples.

5 CONCLUSION

The indoor air monitoring program was completed to evaluate the effectiveness of the SSDS in reducing indoor air VOC concentrations. Data from this indoor air monitoring program demonstrated that concentrations reported during the system operational period (August/September) decreased from those reported during the pre-system operational period (June/July). These data indicate the SSDS was effective in mitigating indoor air concentrations.

TABLES

Table 1
Summary of Indoor Air Analytical Results
Facility Indoor Air Monitoring Report
Grenada Manufacturing
Grenada, Mississippi

ARCADIS Design & Consultancy for natural and built assets

Sample Details									Constituent (µg/m³)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration[a]	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
Facility Indoor Air Monitoring Program - Zone B: Production Area																			
A-5-BC	A-5	CMM Room/ C-12	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.13	< 0.064	1.4	< 0.64	< 0.18	0.30	< 1.1	< 0.22	5.8	1.7	< 0.041
A-5-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.94	< 3.8 UJ	2.0 J	< 2.4 UJ	< 1.1 UJ	< 3.6	NA	< 1.2	6.4	2.0	< 3.2 UJ
A-5			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	0.058	< 0.13 UJ	4.1 J	0.14 J	< 0.038 UJ	0.43	NA	0.18	11	1.5	< 0.11 UJ
A-5			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.99	1.5	< 3.0 UJ
A-5			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	0.084	< 0.12 UJ	0.34 J	< 0.080 UJ	< 0.036 UJ	0.46	NA	0.21	0.93	2.0	< 0.11 UJ
A-5			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	4.1 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	4.1	2.3	< 3.1 UJ
A-5			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	0.044	< 0.13 UJ	2.1 J	< 0.083 UJ	< 0.038 UJ	0.46	NA	0.17	2.6	2.2	< 0.11 UJ
B-3-BC	B-3	F-16	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.13	0.073	1.8	< 0.65	< 0.18	0.28	< 1.1	0.47	25	1.4	< 0.042
B-3-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.82	< 3.3 UJ	2.2 J	< 2.1 UJ	< 0.96 UJ	< 3.2	NA	< 1.1	28	1.5	< 2.8 UJ
B-3			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.56 J	0.33 J	< 0.038 UJ	0.32	NA	0.18	26	1.7	< 0.11 UJ
B-3			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.2 UJ	< 1.0 UJ	< 3.4	NA	< 1.1	5.2	1.7	< 3.0 UJ
B-3			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.20 J	< 0.080 UJ	< 0.036 UJ	0.26	NA	0.091	6.3	1.6	< 0.11 UJ
B-3			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	7.8	1.4	< 3.1 UJ
B-3			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.37 J	< 0.083 UJ	< 0.038 UJ	0.32	NA	0.30	7.6	2.2	< 0.11 UJ
B-4-BC	B-4	D-14	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.50	< 0.24	1.1	< 2.4	< 0.68	< 0.99	< 4.3	< 0.84	6.1	1.7	< 0.16
B-4-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.86	< 3.5 UJ	1.4 J	< 2.2 UJ	< 1.0 UJ	< 3.3	NA	< 1.1	6.9	1.8	< 3.0 UJ
R-B-4			Arcadis	All	7-days	Prior	7/13/2017 - 7/20/2017	RAD 130	< 0.13	< 0.53 UJ	2.4 J	< 0.33 UJ	< 0.15 UJ	< 0.50	NA	< 0.17	11.0	3.5	< 0.45 UJ
B-4			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.74 J	0.22 J	< 0.038 UJ	0.44	NA	0.18	10	2.7	< 0.11 UJ
B-4			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.98	2.0	< 3.0 UJ
B-4-7D			Arcadis	All	7-days	During	8/31/2017 - 9/7/2017	RAD 130	< 0.13	< 0.51 UJ	0.34 J	< 0.32 UJ	< 0.15 UJ	0.51	NA	< 0.16	1.7	2.5	< 0.43 UJ
B-4			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.22 J	< 0.080 UJ	< 0.036 UJ	0.58	NA	0.12	1.8	2.0	< 0.11 UJ
B-4			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	1.2 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	4.7	2.0	< 3.1 UJ
B-4			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.48 J	< 0.083 UJ	< 0.038 UJ	0.49	NA	0.23	4.2	1.7	< 0.11 UJ
B-6-BC	B-6	B/C-19	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.13	< 0.065	2.5	< 0.65	< 0.18	< 0.26	< 1.1	< 0.22	4.8	0.51	< 0.042
B-6-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.91	< 3.7 UJ	7.6 J	< 2.3 UJ	< 1.1 UJ	< 3.5	NA	< 1.2	12	< 0.95	< 3.1 UJ
R-B-6			Arcadis	All	7-days	Prior	7/13/2017 - 7/20/2017	RAD 130	< 0.13	< 0.53 UJ	1.9 J	< 0.33 UJ	< 0.15 UJ	< 0.50	NA	< 0.17	6.1	1.5	< 0.44 UJ
B-6			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	1.1 J	< 0.083 UJ	< 0.038 UJ	0.35	NA	0.12	6.6	1.4	< 0.11 UJ
B-6			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.89	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.99	< 0.92	< 3.0 UJ
B-6-7D			Arcadis	All	7-days	During	8/31/2017 - 9/7/2017	RAD 130	< 0.13	< 0.51 UJ	1.4 J	< 0.32 UJ	< 0.15 UJ	< 0.49	NA	< 0.16	2.4	1.1	< 0.43 UJ
B-6			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	1.2 J	< 0.080 UJ	< 0.036 UJ	0.34	NA	0.089	2.6	0.94	< 0.11 UJ
B-6			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	2.9 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	4.8	< 0.94	< 3.1 UJ
B-6			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	1.9 J	< 0.083 UJ	< 0.038 UJ	0.34	NA	0.098	6.1	0.92	< 0.11 UJ
B-8-BC	B-8	G-18	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.14	< 0.068	1.2	< 0.68	< 0.19	0.63	< 1.2	< 0.23	7.1	1.5	< 0.044
B-8-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.80	< 3.2 UJ	1.6 J	< 2.1 UJ	< 0.94 UJ	< 3.1	NA	< 1.0	8.0	1.5	< 2.7 UJ
B-8			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.63 J	0.25 J	< 0.038 UJ	0.38	NA	0.18	10	1.7	< 0.11 UJ
B-8			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	1.1	1.2	< 3.0 UJ
B-8			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.11 J	< 0.080 UJ	< 0.036 UJ	0.29	NA	0.077	1.2	0.94	< 0.11 UJ
B-8			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	3.1	1.1	< 3.1 UJ
B-8			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.20 J	< 0.083 UJ	< 0.038 UJ	0.31	NA	0.19	2.0	0.92	< 0.11 UJ

Table 1
Summary of Indoor Air Analytical Results
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Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration⁋	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
B-9-BC	B-9	E-10	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.12	< 0.061	1.8	< 0.61	< 0.17	0.44	< 1.1	0.26	12	1.9	< 0.040
B-9-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.88	< 3.6 UJ	2.5 J	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	14	2.0	< 3.0 UJ
B-9			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.82 J	0.22 J	< 0.038 UJ	0.38	NA	0.26	10	1.8	< 0.11 UJ
B-9			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	1.6	1.8	< 3.0 UJ
B-9			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.23 J	< 0.080 UJ	< 0.036 UJ	0.48	NA	0.21	2.6	2.5	< 0.11 UJ
B-9			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	1.6 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	5.1	1.7	< 3.1 UJ
B-9			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.65 J	< 0.083 UJ	< 0.038 UJ	0.42	NA	0.42	4.7	1.8	< 0.11 UJ

Notes:

‡	Sample duration is approximate.
⁋	Sample duration occurred prior to the operation of the SSDS, during the operation of the SSDS, or after the shutdown of the SSDS.
J	The compound was positively identified; however, the associated numerical value is an estimated concentration only.
RAD 130	Samples collected in Radiello 130 passive samples and analyzed by solvent panel scan by gas chromatography/mass spectrometry.
TO-15	TO-15 samples collected in 6-liter SUMMA canisters and analyzed by modified U.S. Environmental Protection Agency Method TO-15 gas chromatography/mass spectrometry.
UJ	The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

Abbreviations:

µg/m^3	Micrograms per cubic meter.
DCA	Dichloroethane.
DCE	Dichloroethene.
NA	Not available by Method Radiello 130 Solvent Panel Scan and/or Method Radiello 145 Thermal Desorption.
PCE	Tetrachloroethene.
SSDS	Sub-slab depressurization system.
TCA	Trichloroethane.
TCE	Trichloroethene.

Table 2
Summary of Ambient Air Analytical Results
Facility Indoor Air Monitoring Report
Grenada Manufacturing
Grenada, Mississippi

ARCADIS Design & Consultancy for natural and built assets

Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration⍰	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
Ambient Air																			
Amb-1-BC	AMB-SW	Southwest side of the facility	Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.80	< 3.2 UJ	< 0.99 UJ	< 2.1 UJ	< 0.94 UJ	< 3.1	NA	< 1.0	< 0.90	< 0.84	< 2.7 UJ
AMB-28D			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	< 0.040 UJ	< 0.083 UJ	< 0.038 UJ	0.22	NA	< 0.042	0.044	0.45	< 0.11 UJ
AMB-24H			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.89	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.99	< 0.93	< 3.0 UJ
AMB-7D			Arcadis	All	7-days	During	8/31/2017 - 9/7/2017	RAD 130	< 0.13	< 0.51 UJ	< 0.16 UJ	< 0.33 UJ	< 0.15 UJ	< 0.49	NA	< 0.16	< 0.14	0.53	< 0.43 UJ
AMB-28D			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	< 0.038 UJ	< 0.080 UJ	< 0.036 UJ	0.30	NA	< 0.040	0.048	0.50	< 0.11 UJ
AMB-24hr			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	< 1.0	< 0.94	< 3.1 UJ
AMB-28D			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	< 0.040 UJ	< 0.083 UJ	< 0.038 UJ	0.27	NA	< 0.042	0.082	0.52	< 0.11 UJ

Notes:

‡ Sample duration is approximate.

⍰ Sample duration occurred prior to the operation of the SSDS, during the operation of the SSDS, or after the shutdown of the SSDS.

UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

Abbreviations:

µg/m^3 Micrograms per cubic meter.
DCA Dichloroethane.
DCE Dichloroethene.
NA Not available by Method Radiello 130 Solvent Panel Scan and/or Method Radiello 145 Thermal Desorption.
PCE Tetrachloroethene.
SSDS Sub-slab depressurization system.
TCA Trichloroethane.
TCE Trichloroethene.

Table 3
Summary of Quality Assurance/Quality Control Air Analytical Results
Facility Indoor Air Monitoring Report
Grenada Manufacturing
Grenada, Mississippi

Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration⁋	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
QA/QC																			
DUP-1-BC	B-4	D-14	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.14	< 0.069	1.1	< 0.69	< 0.19	0.41	< 1.2	< 0.24	6.2	1.6	< 0.044
DUP-1-BC	B-4	D-14	Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.86	< 3.5 UJ	1.5 J	< 2.2 UJ	< 1.0 UJ	< 3.3	NA	< 1.1	7.3	1.9	< 3.0 UJ
DUP-2-BC	B-4	D-14	Arcadis	All	7-days	Prior	7/13/2017 - 7/20/2017	RAD 130	< 0.13	< 0.53 UJ	1.5 J	< 0.33 UJ	< 0.15 UJ	< 0.50	NA	< 0.17	11.0	3.2	< 0.45 UJ
Dup-3	B-3	F-16	Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.29 J	0.15 J	< 0.038 UJ	0.26	NA	0.19	24	1.7	< 0.11 UJ
Dup-1	B-3	F-16	Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.2 UJ	< 1.0 UJ	< 3.4	NA	< 1.1	5.5	1.6	< 3.0 UJ
Dup-2	B-4	D-14	Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.98	2.3	< 3.0 UJ
Dup-1	B-3	F-16	Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.23 J	< 0.080 UJ	< 0.036 UJ	0.27	NA	0.091	6.4	1.7	< 0.11 UJ
Dup-1	B-3	F-16	Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	6.8	1.5	< 3.1 UJ
Dup-1	B-3	F-16	Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.32 J	< 0.083 UJ	< 0.038 UJ	0.29	NA	0.26	6.7	1.9	< 0.11 UJ

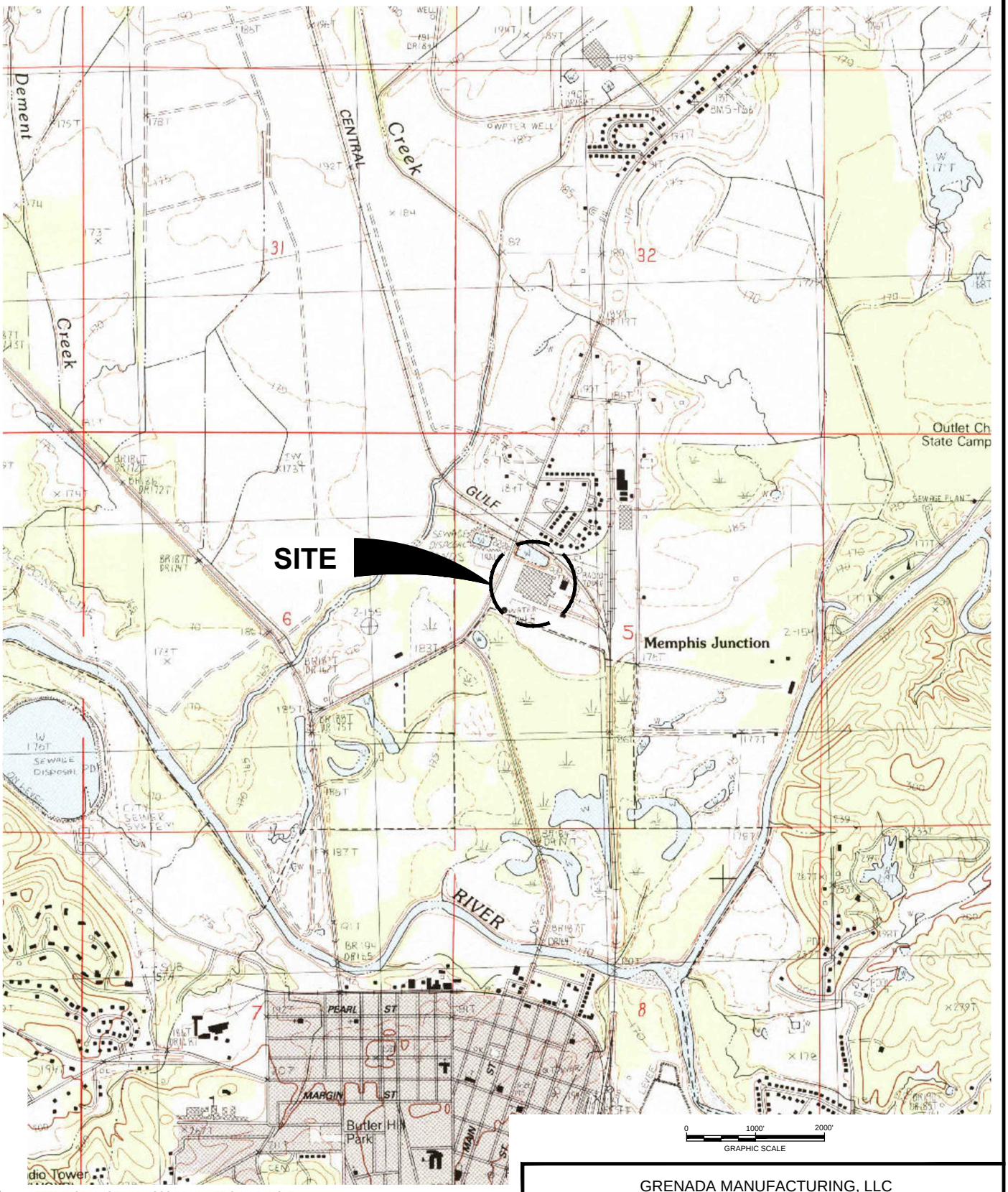
Notes:

‡	Sample duration is approximate.
⁋	Sample duration occurred prior to the operation of the SSDS, during the operation of the SSDS, or after the shutdown of the SSDS.
RAD 130	Samples collected in Radiello 130 passive samples and analyzed by solvent panel scan by gas chromatography/mass spectrometry.
TO-15	TO-15 samples collected in 6-liter SUMMA canisters and analyzed by modified U.S. Environmental Protection Agency Method TO-15 gas chromatography/mass spectrometry.
UJ	The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

Abbreviations:

µg/m^3	Micrograms per cubic meter.
DCA	Dichloroethane.
DCE	Dichloroethene.
NA	Not available by Method Radiello 130 Solvent Panel Scan and/or Method Radiello 145 Thermal Desorption.
PCE	Tetrachloroethene.
SSDS	Sub-slab depressurization system.
TCA	Trichloroethane.
TCE	Trichloroethene.

FIGURES



REFERENCE: BASE MAP USGS 7.5 MINUTE QUADRANGLE., GRENADA, MS, 1983

GRENADA MANUFACTURING, LLC
635 HIGHWAY 332, GRENADA, MISSISSIPPI

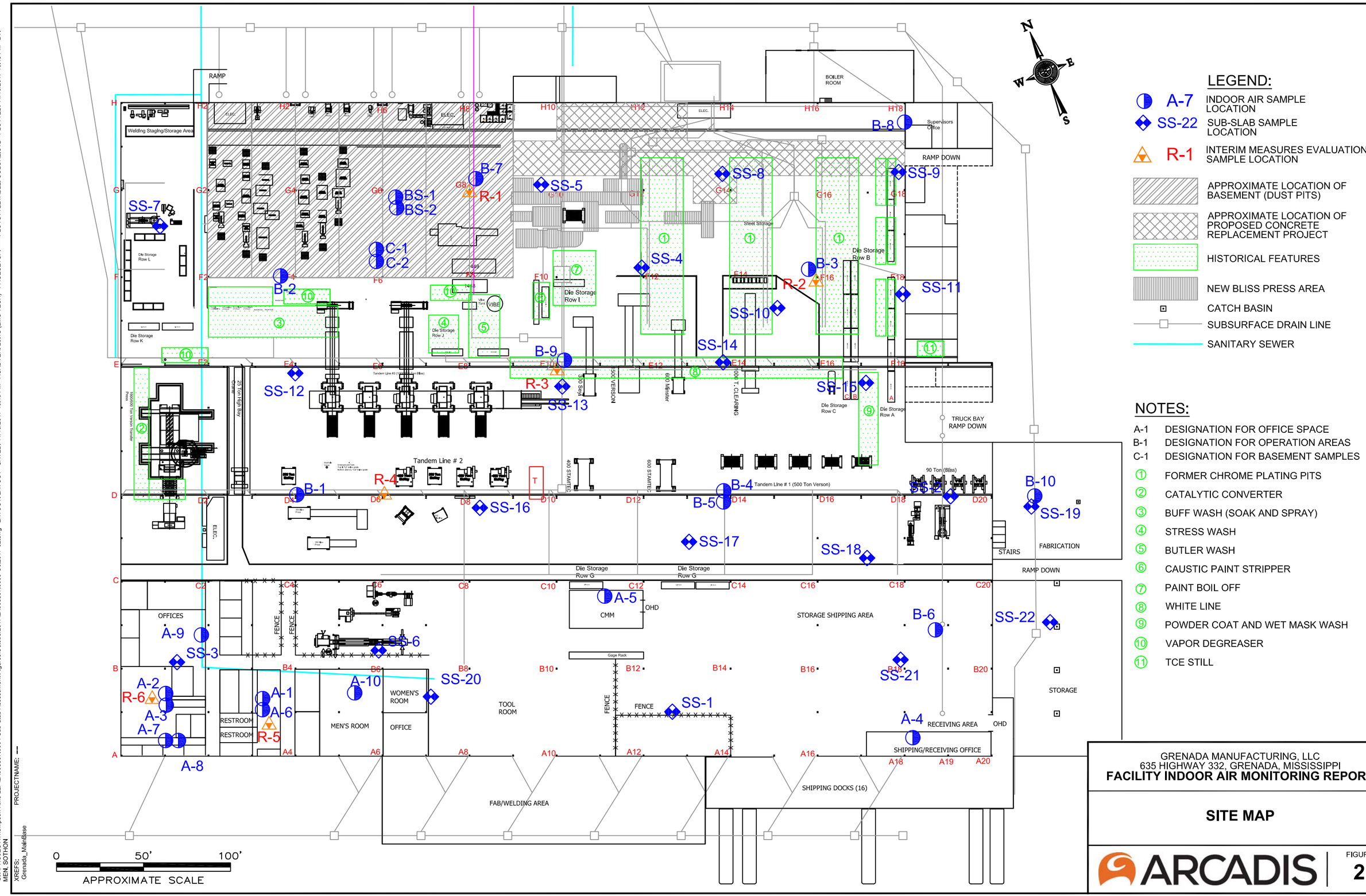
FACILITY INDOOR AIR MONITORING REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:SYRACUSE-NY DIV/GROUP:ENVCAD DB:G.STEINBERGER LD: PIC: PM:E.MOOSBRUGGER TM: LYR:(Opt)ON=*;OFF=*REF*
C:\ENVCAD\SYRACUSE\ACT\LA003307\0006\0003\DWG\REPORT\CONCEPT\LA3307N01.dwg LAYOUT: 1 SAVED: 6/14/2017 2:37 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/14/2017 2:37 PM BY: STEINBERGER, GEORGE
XREFS: IMAGES: PROJECTNAME: ----
LA3307X01.jpg



LEGEND:

- A-7 INDOOR AIR SAMPLE LOCATION
- SS-22 SUB-SLAB SAMPLE LOCATION
- R-1 INTERIM MEASURES EVALUATION SAMPLE LOCATION
- APPROXIMATE LOCATION OF BASEMENT (DUST PITS)
- APPROXIMATE LOCATION OF PROPOSED CONCRETE REPLACEMENT PROJECT
- HISTORICAL FEATURES
- NEW BLISS PRESS AREA
- CATCH BASIN
- SUBSURFACE DRAIN LINE
- SANITARY SEWER

NOTES:

- A-1 DESIGNATION FOR OFFICE SPACE
- B-1 DESIGNATION FOR OPERATION AREAS
- C-1 DESIGNATION FOR BASEMENT SAMPLES
- ① FORMER CHROME PLATING PITS
- ② CATALYTIC CONVERTER
- ③ BUFF WASH (SOAK AND SPRAY)
- ④ STRESS WASH
- ⑤ BUTLER WASH
- ⑥ CAUSTIC PAINT STRIPPER
- ⑦ PAINT BOIL OFF
- ⑧ WHITE LINE
- ⑨ POWDER COAT AND WET MASK WASH
- ⑩ VAPOR DEGREASER
- ⑪ TCE STILL

GRENADA MANUFACTURING, LLC
635 HIGHWAY 332, GRENADA, MISSISSIPPI

FACILITY INDOOR AIR MONITORING REPORT

SITE MAP

ARCADIS

FIGURE 2

0 100’ 200’
APPROXIMATE SCALE

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S

LEGEND:

AMB-SOUTH AMBIENT SAMPLE LOCATION AND DESIGNATION

GRENADA MANUFACTURING, LLC
635 HIGHWAY 332, GRENADA, MISSISSIPPI
FACILITY INDOOR AIR MONITORING REPORT

AMBIENT AIR SAMPLE LOCATIONS

ARCADIS

FIGURE
3

APPENDIX A

Comprehensive Summary of Indoor Air and Ambient Air Analytical Results

Appendix A
Comprehensive Summary of Indoor Air and Ambient Air Analytical Results
Facility Indoor Air Monitoring Report
Grenada Manufacturing
Grenada, Mississippi

ARCADIS Design & Consultancy for natural and built assets

Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration[8]	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
Facility Indoor Air Monitoring Program - Zone B: Production Area																			
A-5	A-5	CMM Room / C-12	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	1.8	ND	ND	0.79	34	32	6.9	10	ND
A-5			CTEH	All	24-hrs	Prior	Jan-17	TO-15	0.099	0.082	2.3	ND	ND	1	11	3.1	10	6.1	ND
A-5			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.15	< 0.15	1.5	< 0.15	< 0.15	0.75	< 0.74	0.29	9.6	4.4	< 0.15
548 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 57	NA	< 59	NA	< 73	< 55	NA	< 74	< 63	< 59	NA
103 JX			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 68	< 51	NA	< 69	< 59	< 55	NA
538 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 51	NA	< 52	NA	< 65	< 49	NA	< 66	< 57	< 53	NA
096 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	3.4 J	NA	< 3.3	< 2.5	NA	< 3.4	20	4.4 J	NA
R-A-5			Arcadis	All	30-days	Prior	5/1/2017 - 5/30/2017	RAD 130	< 0.63	NA	2.9 J	NA	< 0.81	< 0.60	NA	< 0.82	7.4	7.3 J	NA
A-5-BC			Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.13	< 0.064	1.4	< 0.64	< 0.18	0.30	< 1.1	< 0.22	5.8	1.7	< 0.041
A-5-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.94	< 3.8 UJ	2.0 J	< 2.4 UJ	< 1.1 UJ	< 3.6	NA	< 1.2	6.4	2.0	< 3.2 UJ
A-5			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	0.058	< 0.13 UJ	4.1 J	0.14 J	< 0.038 UJ	0.43	NA	0.18	11	1.5	< 0.11 UJ
A-5			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.99	1.5	< 3.0 UJ
A-5			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	0.084	< 0.12 UJ	0.34 J	< 0.080 UJ	< 0.036 UJ	0.46	NA	0.21	0.93	2.0	< 0.11 UJ
A-5			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	4.1 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	4.1	2.3	< 3.1 UJ
A-5			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	0.044	< 0.13 UJ	2.1 J	< 0.083 UJ	< 0.038 UJ	0.46	NA	0.17	2.6	2.2	< 0.11 UJ
B-3	B-3	F-16	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	3.7	ND	ND	0.6	87	68	29	5.6	ND
B-3			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	0.14	2.7	ND	ND	0.51	1.7	0.6	81	5.1	ND
B-3			Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.14	< 0.14	1.0	< 0.14	< 0.14	0.52	< 0.71	0.19	9.8	1.6	< 0.14
552 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 59	NA	< 60	NA	< 75	< 56	NA	< 76	< 65	< 61	NA
104 JX			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 68	< 51	NA	< 69	< 59	< 55	NA
543 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 52	NA	< 54	NA	< 67	< 50	NA	< 68	< 58	< 54	NA
092 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	< 2.7	NA	< 3.3	< 2.5	NA	< 3.4	29	3.9 J	NA
R-B-3			Arcadis	All	30-days	Prior	5/1/2017 - 5/30/2017	RAD 130	< 0.63	NA	1.4 J	NA	< 0.81	< 0.61	NA	< 0.82	13	3.3 J	NA
B-3-BC			Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.13	0.073	1.8	< 0.65	< 0.18	0.28	< 1.1	0.47	25	1.4	< 0.042
B-3-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.82	< 3.3 UJ	2.2 J	< 2.1 UJ	< 0.96 UJ	< 3.2	NA	< 1.1	28	1.5	< 2.8 UJ
B-3			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.56 J	0.33 J	< 0.038 UJ	0.32	NA	0.18	26	1.7	< 0.11 UJ
B-3			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.2 UJ	< 1.0 UJ	< 3.4	NA	< 1.1	5.2	1.7	< 3.0 UJ
B-3			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.20 J	< 0.080 UJ	< 0.036 UJ	0.26	NA	0.091	6.3	1.6	< 0.11 UJ
B-3			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	7.8	1.4	< 3.1 UJ
B-3			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.37 J	< 0.083 UJ	< 0.038 UJ	0.32	NA	0.30	7.6	2.2	< 0.11 UJ

Appendix A
Comprehensive Summary of Indoor Air and Ambient Air Analytical Results
Facility Indoor Air Monitoring Report
Grenada Manufacturing
Grenada, Mississippi

Sample Details									Constituent (µg/m^3)											
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration[8]	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
B-4	B-4	D-14	CTEH	All	24-hrs	Prior	Oct-16	TO-15	0.14	ND	2.2	ND	ND	0.7	76	63	13	8.5	ND
B-4			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	0.059	2.7	ND	ND	0.47	1.1	0.57	12	3.2	0.097
B-4			Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.14	< 0.14	2.8	< 0.14	< 0.14	0.63	< 0.69	0.32	24	3	< 0.14
550 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 57	NA	< 59	NA	< 74	< 55	NA	< 75	< 64	< 60	NA
B-4 (050217) 1ST			Arcadis	1st	8-hrs	Prior	5/2/2017	TO-15	< 2.02	< 1.98	4.7	35.2	< 2.73	< 1.60	< 1.74	< 3.39	51.4	30.3	< 1.28
118 JX			Arcadis	1st	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	NU	NA	ND	4.3	NA	< 2.1	230 E (J)	37	NA
431 JX			Arcadis	1st	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	NU	NA	ND	< 2.0	NA	< 2.1	120	6.6	NA
557 JU			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 68	< 51	NA	< 69	< 59	< 55	NA
B-4 (050217) 2ND			Arcadis	2nd	8-hrs	Prior	5/2/2017	TO-15	< 2.02	< 1.98	4.00	< 1.98	< 2.73	< 1.60	< 1.74	< 3.39	33.6	2.34	< 1.28
123 JX			Arcadis	2nd	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	NU	NA	ND	4.5	NA	< 2.1	280 E (J)	59	NA
438 JX			Arcadis	2nd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	NU	NA	ND	< 1.9	NA	< 2.1	110	7.2	NA
540 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 52	NA	< 54	NA	< 67	< 50	NA	< 68	< 58	< 54	NA
B-4 (050117) 3RD			Arcadis	3rd	8-hrs	Prior	5/1/2017	TO-15	< 2.02	< 1.98	< 1.98	< 1.98	< 2.73	< 1.60	59.1	< 3.39	13.8	31.2	< 1.28
111 JX			Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	NU	NA	ND	3.8	NA	< 2.2	210 E (J)	34	NA
104 QK			Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	NU	NA	ND	2.1	NA	< 2.0	75	38	NA
088 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	5.5 J	NA	< 3.3	< 2.5	NA	< 3.4	46	5.1 J	NA
425 JX			Arcadis	All	14-days	Prior	5/1/2017 - 5/15/2017	RAD 130	< 1.3	NA	6.0 J	NA	< 1.7	< 1.2	NA	< 1.7	1.2	5.2 J	NA
B-4-BC			Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.50	< 0.24	1.1	< 2.4	< 0.68	< 0.99	< 4.3	< 0.84	6.1	1.7	< 0.16
B-4-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.86	< 3.5 UJ	1.4 J	< 2.2 UJ	< 1.0 UJ	< 3.3	NA	< 1.1	6.9	1.8	< 3.0 UJ
R-B-4			Arcadis	All	7-days	Prior	7/13/2017 - 7/20/2017	RAD 130	< 0.13	< 0.53 UJ	2.4 J	< 0.33 UJ	< 0.15 UJ	< 0.50	NA	< 0.17	11.0	3.5	< 0.45 UJ
B-4			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.74 J	0.22 J	< 0.038 UJ	0.44	NA	0.18	10	2.7	< 0.11 UJ
B-4			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.98	2.0	< 3.0 UJ
B-4-7D			Arcadis	All	7-days	During	8/31/2017 - 9/7/2017	RAD 130	< 0.13	< 0.51 UJ	0.34 J	< 0.32 UJ	< 0.15 UJ	0.51	NA	< 0.16	1.7	2.5	< 0.43 UJ
B-4			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.22 J	< 0.080 UJ	< 0.036 UJ	0.58	NA	0.12	1.8	2.0	< 0.11 UJ
B-4			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	1.2 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	4.7	2.0	< 3.1 UJ
B-4			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.48 J	< 0.083 UJ	< 0.038 UJ	0.49	NA	0.23	4.2	1.7	< 0.11 UJ

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Sample Details									Constituent (µg/m^3)											
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration[8]	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
B-6	B-6	B/C-19	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	2.1	ND	ND	0.67	38	39	6.8	3.3	ND
B-6			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	2.4	ND	ND	0.45	1.8	1	6.5	2.4	0.077
B-6			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.15	< 0.15	4.2	< 0.15	< 0.15	0.56	< 0.74	0.42	13	2.8	< 0.15
539 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 57	NA	< 59	NA	< 73	< 55	NA	< 74	< 63	< 59	NA
120 JX			Arcadis	1st	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	3.9	NA	< 2.1	180 E (J)	21	NA
432 JX			Arcadis	1st	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	NU	NA	ND	< 2.0	NA	< 2.1	67	4.1	NA
556 JU			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 68	< 51	NA	< 69	< 59	< 55	NA
418 JX			Arcadis	2nd	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	NU	NA	ND	4.2	NA	< 2.1	240 E (J)	26	NA
098 QK			Arcadis	2nd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	NU	NA	ND	< 1.9	NA	< 2.1	60	3.4	NA
539 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 51	NA	< 53	NA	< 65	< 49	NA	< 67	< 57	< 53	NA
119 JX			Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	NU	NA	ND	2.9	NA	< 1.9	130	12	NA
109 QK**			Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	NU	NA	ND	1.9	NA	< 2.0	90	19	NA
093 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	19 J	NA	< 3.3	< 2.5	NA	< 3.4	40	3.3 J	NA
424 JX			Arcadis	All	14-days	Prior	5/1/2017 - 5/15/2017	RAD 130	< 1.3	NA	13 J	NA	< 1.7	< 1.2	NA	< 1.7	1.2	3.6 J	NA
B-6-BC			Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.13	< 0.065	2.5	< 0.65	< 0.18	< 0.26	< 1.1	< 0.22	4.8	0.51	< 0.042
B-6-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.91	< 3.7 UJ	7.6 J	< 2.3 UJ	< 1.1 UJ	< 3.5	NA	< 1.2	12	< 0.95	< 3.1 UJ
R-B-6			Arcadis	All	7-days	Prior	7/13/2017 - 7/20/2017	RAD 130	< 0.13	< 0.53 UJ	1.9 J	< 0.33 UJ	< 0.15 UJ	< 0.50	NA	< 0.17	6.1	1.5	< 0.44 UJ
B-6			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	1.1 J	< 0.083 UJ	< 0.038 UJ	0.35	NA	0.12	6.6	1.4	< 0.11 UJ
B-6			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.89	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.99	< 0.92	< 3.0 UJ
B-6-7D			Arcadis	All	7-days	During	8/31/2017 - 9/7/2017	RAD 130	< 0.13	< 0.51 UJ	1.4 J	< 0.32 UJ	< 0.15 UJ	< 0.49	NA	< 0.16	2.4	1.1	< 0.43 UJ
B-6			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	1.2 J	< 0.080 UJ	< 0.036 UJ	0.34	NA	0.089	2.6	0.94	< 0.11 UJ
B-6			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	2.9 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	4.8	< 0.94	< 3.1 UJ
B-6			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	1.9 J	< 0.083 UJ	< 0.038 UJ	0.34	NA	0.098	6.1	0.92	< 0.11 UJ
B-8	B-8	G-18	Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.14	< 0.14	1.2	< 0.14	< 0.14	0.57	< 0.72	0.18	11	2	< 0.14
553 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 58	NA	< 60	NA	< 74	< 56	NA	< 76	< 65	< 60	NA
105 JX			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 69	< 51	NA	< 70	< 60	< 56	NA
544 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 53	NA	< 55	NA	< 68	< 51	NA	< 70	< 60	< 55	NA
090 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	< 2.7	NA	< 3.3	< 2.5	NA	< 3.4	14	< 2.7 UJ	NA
B-8-BC			Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.14	< 0.068	1.2	< 0.68	< 0.19	0.63	< 1.2	< 0.23	7.1	1.5	< 0.044
B-8-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.80	< 3.2 UJ	1.6 J	< 2.1 UJ	< 0.94 UJ	< 3.1	NA	< 1.0	8.0	1.5	< 2.7 UJ
B-8			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.63 J	0.25 J	< 0.038 UJ	0.38	NA	0.18	10	1.7	< 0.11 UJ
B-8			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	1.1	1.2	< 3.0 UJ
B-8			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.11 J	< 0.080 UJ	< 0.036 UJ	0.29	NA	0.077	1.2	0.94	< 0.11 UJ
B-8			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	3.1	1.1	< 3.1 UJ
B-8			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.20 J	< 0.083 UJ	< 0.038 UJ	0.31	NA	0.19	2.0	0.92	< 0.11 UJ

Appendix A
Comprehensive Summary of Indoor Air and Ambient Air Analytical Results
Facility Indoor Air Monitoring Report
Grenada Manufacturing
Grenada, Mississippi

Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration[8]	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
B-9	B-9	E-10	Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.15	< 0.15	4	< 0.15	< 0.15	0.66	< 0.76	0.24	17.0	2.1	< 0.15
551 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 58	NA	< 60	NA	< 75	< 56	NA	< 76	< 65	< 60	NA
117 JX			Arcadis	1st	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	NU	NA	ND	3.9	NA	< 2.2	86	14	NA
433 JX			Arcadis	1st	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 2.0	NA	< 2.2	14	3.8	NA
558 JU			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 68	< 51	NA	< 69	< 59	< 55	NA
419 JX			Arcadis	2nd	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	NU	NA	ND	4.2	NA	< 2.1	91	15	NA
099 QK			Arcadis	2nd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.9	NA	< 2.1	13	2.7	NA
542 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 51	NA	< 53	NA	< 66	< 50	NA	< 67	< 57	< 54	NA
116 JX			Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	NU	NA	ND	3.5	NA	< 1.9	76	13	NA
106 QK			Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.8	NA	< 2.0	26	29	NA
091 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	11 J	NA	< 3.3	< 2.5	NA	< 3.4	75	5.2 J	NA
426 JX			Arcadis	All	14-days	Prior	5/1/2017 - 5/15/2017	RAD 130	< 1.3	NA	6.0 J	NA	< 1.7	< 1.2	NA	< 1.7	1.2	3.9 J	NA
B-9-BC			Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.12	< 0.061	1.8	< 0.61	< 0.17	0.44	< 1.1	0.26	12	1.9	< 0.040
B-9-BC			Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.88	< 3.6 UJ	2.5 J	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	14	2.0	< 3.0 UJ
B-9			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.82 J	0.22 J	< 0.038 UJ	0.38	NA	0.26	10	1.8	< 0.11 UJ
B-9			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	1.6	1.8	< 3.0 UJ
B-9			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.23 J	< 0.080 UJ	< 0.036 UJ	0.48	NA	0.21	2.6	2.5	< 0.11 UJ
B-9			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	1.6 J	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	5.1	1.7	< 3.1 UJ
B-9			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.65 J	< 0.083 UJ	< 0.038 UJ	0.42	NA	0.42	4.7	1.8	< 0.11 UJ
Indoor Air - Zone A: Office Area, Breakroom, Restrooms																			
A-1	A-1	Office	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	1.9	ND	ND	0.97	26	24	7.1	6.2	ND
A-1			CTEH	All	24-hrs	Prior	Jan-17	TO-15	0.095	0.12	1.8	ND	ND	0.95	25	0.7	6.6	6.7	ND
A-1			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.16	< 0.16	0.83	< 0.16	< 0.16	0.87	< 0.78	0.29	3.2	4.3	< 0.16
A-2	A-2	Office	CTEH	All	24-hrs	Prior	Oct-16	TO-15	0.25	ND	1.9	ND	ND	1	27	25	7.1	6.2	ND
A-2			CTEH	All	24-hrs	Prior	Jan-17	TO-15	0.091	0.14	2	ND	ND	0.97	2.1	0.78	7.6	5.4	ND
A-2			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.14	< 0.14	0.88	< 0.14	< 0.14	0.93	< 0.72	0.31	3.1	3.8	< 0.14
A-3	A-3	Conference Room	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	1.9	ND	ND	1.1	27	25	7.1	6.3	ND
A-3			CTEH	All	24-hrs	Prior	Jan-17	TO-15	0.099	0.13	2	ND	ND	1	2.2	0.75	7.5	5	ND
A-6	A-6	Time Office	CTEH	All	24-hrs	Prior	Oct-16	TO-15	1.2	ND	1.8	ND	ND	1	25	24	6.7	7.8	ND
A-6			CTEH	All	24-hrs	Prior	Jan-17	TO-15	0.096	0.13	1.9	ND	ND	0.9	2.1	0.77	6.9	4.8	ND
A-7	A-7	Upstairs Conference Room	CTEH	All	24-hrs	Prior	Jan-17	TO-15	0.11	0.098	1.6	ND	ND	0.83	7	0.95	7.4	5.2	ND
A-7			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.14	< 0.14	0.87	< 0.14	< 0.14	0.92	< 0.70	0.21	3.1	3.9	< 0.14
A-8	A-8	Upstairs Conference Room	CTEH	All	24-hrs	Prior	Jan-17	TO-15	0.09	0.092	1.6	ND	ND	0.88	4.3	0.86	7.4	5	ND
A-9	A-9	Office	Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.12	< 0.12	0.69	< 0.12	< 0.12	0.76	< 0.59	0.2	2.4	3.1	< 0.12
A-10	A-10	Men's Room	Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.14	< 0.14	0.8	< 0.14	< 0.14	1.1	< 0.72	0.49	4.4	4.4	< 0.14
R-5	R-5	Office	Arcadis	All	14-days	Prior	3/1/2017 - 3/15/2017	RAD 130	< 0.64	NA	1.3	NA	< 0.83	< 0.62	NA	< 0.84	29 J	3.8	NA
R-6	R-6	Office	Arcadis	All	14-days	Prior	3/1/2017 - 3/15/2017	RAD 130	< 0.64	NA	1.1	NA	< 0.83	< 0.62	NA	< 0.84	31 J	3.8	NA

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Facility Indoor Air Monitoring Report
Grenada Manufacturing
Grenada, Mississippi

ARCADIS Design & Consultancy for natural and built assets

Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration[8]	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
Indoor Air - Zone B: Production Area																			
B-1	B-1	Blow Press Area (D-4)	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	2.8	ND	ND	0.73	48	47	11	7	ND
B-1			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	0.14	3.7	ND	ND	0.76	4.7	0.76	23	4.5	0.096
B-1			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.13	< 0.13	0.38	< 0.13	< 0.13	0.7	< 0.67	0.21	3.6	1.6	< 0.13
B-2	B-2	Weld Area (F-4)	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	2.4	ND	ND	0.73	35	32	11	9	ND
B-2			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	0.071	2.9	ND	ND	0.69	1.5	0.62	22	4.5	ND
B-2			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.15	< 0.15	0.41	< 0.15	< 0.15	1.1	< 0.77	< 0.15	2.4	1.7	< 0.15
B-5	B-5	Tandem Line (D-14)	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	2.2	ND	ND	0.68	75	61	12	7.8	ND
B-5			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	0.06	2.7	ND	ND	0.47	1.2	0.66	12	3.3	ND
B-7	B-7	G-8	CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	0.099	3.1	ND	ND	0.65	1.2	0.78	35	4.3	0.087
B-7			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.15	< 0.15	0.85	< 0.15	< 0.15	0.72	< 0.74	< 0.15	3.8	1.3	< 0.15
B-10	B-10	Fabrication	Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.14	< 0.14	2.7	< 0.14	< 0.14	1	5.1	1.2	5.8	160	0.77
R-2	R-2	F-16	Arcadis	All	14-days	Prior	3/1/17 - 3/15/17	RAD 130	< 0.65	NA	1.2	NA	< 0.83	< 0.62	NA	< 0.84	1.3 J	12	NA
R-3	R-3	F-10	Arcadis	All	14-days	Prior	3/1/17 - 3/15/17	RAD 130	< 0.64	NA	3.9	NA	< 0.83	< 0.62	NA	< 0.84	1.5 J	19	NA
R-4	R-4	Near column D-6	Arcadis	All	14-days	Prior	3/1/17 - 3/15/17	RAD 130	< 0.64	NA	1.0	NA	< 0.83	< 0.62	NA	< 0.84	2.2 J	6.0	NA
Indoor Air - Zone C: Basement Area																			
BS-1	BS-1	Basement	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	0.58	ND	ND	0.57	7.1	4.4	1.3	2.3	ND
BS-1			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	6.4	ND	ND	0.63	1.5	0.3	1.6	13	0.38
BS-1			Arcadis	All	24-hrs	Prior	3/2/17	TO-15	< 0.14	< 0.14	0.31	< 0.14	< 0.14	0.38	< 0.70	< 0.14	< 0.70	0.73	< 0.14
BS-2	BS-2		CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	0.9	ND	ND	0.52	6.2	5.6	2.3	3.3	ND
BS-2			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	6.7	ND	ND	0.62	3.1	0.27	1.8	14	0.4
CS-1	CS-1	Chamber Samples	CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	51	ND	ND	ND	18,000	3,300	ND	43	ND
CS-2	CS-2	Chamber Samples	CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	2.1	ND	ND	1.2	13	150	8.1	8.7	ND
R-1	R-1	Column G8	Arcadis	All	14-days	Prior	3/1/17 - 3/15/17	RAD 130	< 0.65	NA	0.91	NA	< 0.83	< 0.62	NA	< 0.84	1.5 J	5.8	NA
Ambient Air																			
OA001	NA	NA	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	0.49	ND	ND	0.58	ND	0.52	1.7	1.2	ND
OA001			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	ND	ND	ND	0.53	3.7	0.19	0.16	1.5	ND
OA002	NA	NA	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	0.56	ND	ND	1.2	ND	0.66	2	1.5	ND
OA002			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	0.14	ND	ND	0.36	2.6	0.12	0.77	1.1	ND
OA003	NA	NA	CTEH	All	24-hrs	Prior	Oct-16	TO-15	ND	ND	0.68	ND	ND	0.41	ND	0.48	3.5	0.9	ND
OA003			CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	ND	ND	ND	0.34	1.9	ND	0.13	0.74	ND
OA004	OA004	NA	CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	0.12	ND	ND	0.38	2.1	ND	0.11	0.86	ND
OA005	OA005	NA	CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	0.14	ND	ND	0.44	1.8	0.47	0.13	1.2	ND
OA006	OA006	NA	CTEH	All	24-hrs	Prior	Jan-17	TO-15	ND	ND	ND	ND	ND	0.48	1.6	ND	ND	1.3	ND
AMB-N	AMB-N	North side of facility	Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	0.34	< 0.74	< 0.15	< 0.15	< 0.74	< 0.15
AMB-R-N			Arcadis	All	13-days	Prior	3/2/17-3/15/17	RAD 130	< 0.68	NA	< 0.71	NA	< 0.88	< 0.66	NA	< 0.89	< 0.71	< 0.76	NA
554 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 58	NA	< 60	NA	< 75	< 56	NA	< 76	< 65	< 60	NA
115 JX			Arcadis	1st	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	2.9	NA	< 2.2	< 2.1	7.4	NA
435 JX			Arcadis	1st	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 2.0	NA	< 2.2	< 2.0	7.1	NA
106 JX			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 69	< 51	NA	< 70	< 60	< 56	NA
421 JX			Arcadis	2nd	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	2.9	NA	< 2.1	2.9	4.7	NA
101 QK			Arcadis	2nd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.9	NA	< 2.1	< 2.0	3.8	NA
547 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 53	NA	< 55	NA	< 68	< 51	NA	< 69	< 59	< 55	NA
114 JX			Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	ND	NA	ND	2.7	NA	< 2.0	< 1.9	6.8	NA
108 QK			Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	1.9	NA	< 2.0	< 1.8	21	NA
097 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	< 2.7	NA	< 3.3	< 2.5	NA	< 3.4	< 2.9	< 2.7 UJ	NA
428 JX			Arcadis	All	14-days	Prior	5/1/2017 - 5/15/2017	RAD 130	< 1.3	NA	< 1.3	NA	< 1.7	< 1.2	NA	< 1.7	< 1.4	1.7 J	NA
Amb-R-N			Arcadis	All	30-days	Prior	5/1/2017 - 5/30/2017	RAD 130	< 0.63	NA	< 0.65	NA	< 0.81	< 0.60	NA	< 0.82	< 0.70	0.77 J	NA

Appendix A
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Grenada Manufacturing
Grenada, Mississippi

ARCADIS Design & Consultancy for natural and built assets

Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration[8]	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
AMB-S	AMB-S	South side of facility	Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	0.44	< 0.88	< 0.18	0.53	0.97	< 0.18
AMB-R-S			Arcadis	All	13-days	Prior	3/2/2017 - 3/15/2017	RAD 130	< 0.68	NA	< 0.71	NA	< 0.88	< 0.66	NA	< 0.89	< 0.76	< 0.71	NA
555 JU			Arcadis	1st	8-hrs	Prior	5/2/2017	RAD 145*	< 58	NA	< 60	NA	< 75	< 56	NA	< 76	< 65	< 61	NA
122 JX			Arcadis	1st	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	2.8	NA	< 2.2	< 2.0	8.1	NA
434 JX			Arcadis	1st	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 2.0	NA	< 2.2	< 2.0	10	NA
107 JX			Arcadis	2nd	8-hrs	Prior	5/2/2017	RAD 145*	< 53	NA	< 55	NA	< 69	< 51	NA	< 70	< 60	< 56	NA
420 JX			Arcadis	2nd	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	2.7	NA	< 2.1	< 2.0	4.9	NA
100 QK			Arcadis	2nd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.9	NA	< 2.1	< 2.0	4.0	NA
545 JU			Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 55	NA	< 57	NA	< 71	< 53	NA	< 72	< 62	< 57	NA
121 JX			Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	ND	NA	ND	3.2	NA	< 2.0	< 1.9	9.0	NA
105 QK**			Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	2.1	NA	< 2.0	< 1.9	18	NA
095 QK			Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	< 2.7	NA	< 3.3	< 2.5	NA	< 3.4	< 2.9	< 2.7 UJ	NA
427 JX			Arcadis	All	14-days	Prior	5/1/2017 - 5/15/2017	RAD 130	< 1.3	NA	< 1.3	NA	< 1.7	< 1.2	NA	< 1.7	< 1.4	< 1.3	NA
Amb-R-S			Arcadis	All	30-days	Prior	5/1/2017 - 5/30/2017	RAD 130	< 0.63	NA	< 0.65	NA	< 0.81	< 0.60	NA	< 0.82	< 0.70	< 0.65	NA
AMB-E	AMB-E	East side of facility	Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	0.37	< 0.71	< 0.14	0.32	7	< 0.14
108 JX			Arcadis	1st	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	2.6	NA	< 2.2	< 2.1	25	NA
437 JX			Arcadis	1st	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 2.1	NA	< 2.3	< 2.2	13	NA
423 JX			Arcadis	2nd	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	2.3	NA	< 2.1	< 2.0	18	NA
103 QK			Arcadis	2nd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.9	NA	< 2.1	< 2.0	5.0	NA
109 JX			Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	ND	NA	ND	2.2	NA	< 2.0	< 1.9	21	NA
111 QK			Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.8	NA	< 2.0	< 1.9	36	NA
430 JX			Arcadis	All	14-days	Prior	5/1/2017 - 5/15/2017	RAD 145	ND	NA	ND	NA	ND	0.28	NA	0.10	0.17	6.9 EJ	NA
Amb-R-E			Arcadis	All	30-days	Prior	5/1/2017 - 5/30/2017	RAD 130	< 0.63	NA	< 0.65	NA	< 0.81	< 0.61	NA	< 0.82	< 0.70	4.5 J	NA
AMB-W	AMB-W	West side of facility	Arcadis	All	24-hrs	Prior	3/2/2017	TO-15	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	0.37	< 0.67	< 0.13	< 0.13	< 0.67	< 0.13
113 JX			Arcadis	1st	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	2.8	NA	< 2.2	< 2.0	8.7	NA
436 JX			Arcadis	1st	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 2.0	NA	< 2.2	< 2.0	14	NA
422 JX			Arcadis	2nd	8-hrs	Prior	5/9/2017	RAD 145	ND	NA	ND	NA	ND	3.0	NA	< 2.1	< 2.0	9.1	NA
102 QK			Arcadis	2nd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.9	NA	< 2.1	< 2.0	4.1	NA
112 JX			Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	ND	NA	NA	3.2	NA	< 2.0	< 1.9	8.8	NA
110 QK			Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	ND	NA	ND	< 1.8	NA	< 2.0	< 1.9	15	NA
429 JX			Arcadis	All	14-days	Prior	5/1/2017 - 5/15/2017	RAD 130	< 1.3	NA	< 1.3	NA	< 1.7	< 1.2	NA	< 1.7	< 1.4	< 1.3	NA
Amb-R-W			Arcadis	All	30-days	Prior	5/1/2017 - 5/30/2017	RAD 130	< 0.63	NA	< 0.65	NA	< 0.81	< 0.60	NA	< 0.82	< 0.70	< 0.65	NA
Amb-1-BC	AMB-SW	Southwest side of the facility	Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.80	< 3.2 UJ	< 0.99 UJ	< 2.1 UJ	< 0.94 UJ	< 3.1	NA	< 1.0	< 0.90	< 0.84	< 2.7 UJ
AMB-28D			Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	< 0.040 UJ	< 0.083 UJ	< 0.038 UJ	0.22	NA	< 0.042	0.044	0.45	< 0.11 UJ
AMB-24H			Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.89	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.99	< 0.93	< 3.0 UJ
AMB-7D			Arcadis	All	7-days	During	8/31/2017 - 9/7/2017	RAD 130	< 0.13	< 0.51 UJ	< 0.16 UJ	< 0.33 UJ	< 0.15 UJ	< 0.49	NA	< 0.16	< 0.14	0.53	< 0.43 UJ
AMB-28D			Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	< 0.038 UJ	< 0.080 UJ	< 0.036 UJ	0.30	NA	< 0.040	0.048	0.50	< 0.11 UJ
AMB-24hr			Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	< 1.0	< 0.94	< 3.1 UJ
AMB-28D			Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	< 0.040 UJ	< 0.083 UJ	< 0.038 UJ	0.27	NA	< 0.042	0.082	0.52	< 0.11 UJ

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Grenada, Mississippi

Sample Details									Constituent (µg/m^3)										
Sample ID	Sample Location ID	Location / Column	Consultant	Worker Shift	Sample Duration‡	SSDS Operational Status for Sample Duration⁋	Sample Dates	Analysis	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,2-TCA	Benzene	Methylene Chloride	PCE	TCE	Toluene	Vinyl Chloride
QA/QC																			
Dup-2	R-5	Office	Arcadis	All	14-days	Prior	3/1/2017	RAD 130	< 0.64	NA	1.4	NA	< 0.83	< 0.62	NA	< 0.84	33 J	4.3	NA
Dup-3	A-7	Upstairs conf. room	Arcadis	All	24-hrs	Prior	3/1/2017	TO-15	< 0.15	< 0.15	0.62	< 0.15	< 0.15	0.79	< 0.73	0.19	2.6	3.7	< 0.15
Dup-4	B-8	G-18	Arcadis	All	24-hrs	Prior	3/1/2017	TO-15	< 0.18	< 0.18	0.82	< 0.18	< 0.18	0.52	< 0.72	0.18	9.5	1.8	< 0.18
541 JU	B-4	D-14	Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 52	NA	< 54	NA	< 67	< 50	NA	< 68	< 58	< 58	NA
546 JU	B-3	F-16	Arcadis	3rd	8-hrs	Prior	5/1/2017	RAD 145*	< 52	NA	< 54	NA	< 67	< 50	NA	< 68	< 58	< 54	NA
089 QK	B-4	D-14	Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	5.3 J	NA	< 3.3	< 2.5	NA	< 3.4	45	4.9 J	NA
094 QK	B-3	F-16	Arcadis	All	7-days	Prior	5/1/2017 - 5/8/2017	RAD 130	< 2.6	NA	< 2.7	NA	< 3.3	< 2.5	NA	< 3.4	22	3.7 J	NA
110 JX	B-4	D-14	Arcadis	3rd	8-hrs	Prior	5/8/2017	RAD 145	ND	NA	NU	NA	ND	3.5	NA	< 2.2	190 E (J)	37	NA
107 QK	B-9	E-10	Arcadis	3rd	8-hrs	Prior	5/16/2017	RAD 145	ND	NA	NU	NA	ND	2.0	NA	< 2.0	65	< 1.7	NA
DUP-5	B-3	F-16	Arcadis	All	30-days	Prior	5/1/2017 - 5/30/2017	RAD 130	< 0.63	NA	1.6 J	NA	< 0.81	< 0.61	NA	< 0.82	20	3.5 J	NA
DUP-1-BC	B-4	D-14	Arcadis	All	24-hrs	Prior	6/28/2017	TO-15	< 0.14	< 0.069	1.1	< 0.69	< 0.19	0.41	< 1.2	< 0.24	6.2	1.6	< 0.044
DUP-1-BC	B-4	D-14	Arcadis	All	24-hrs	Prior	6/28/2017	RAD 130	< 0.86	< 3.5 UJ	1.5 J	< 2.2 UJ	< 1.0 UJ	< 3.3	NA	< 1.1	7.3	1.9	< 3.0 UJ
DUP-2-BC	B-4	D-14	Arcadis	All	7-days	Prior	7/13/2017 - 7/20/2017	RAD 130	< 0.13	< 0.53 UJ	1.5 J	< 0.33 UJ	< 0.15 UJ	< 0.50	NA	< 0.17	11.0	3.2	< 0.45 UJ
Dup-3	B-3	F-16	Arcadis	All	28-days	Prior	7/13/2017 - 8/10/2017	RAD 130	< 0.032	< 0.13 UJ	0.29 J	0.15 J	< 0.038 UJ	0.26	NA	0.19	24	1.7	< 0.11 UJ
Dup-1	B-3	F-16	Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.2 UJ	< 1.0 UJ	< 3.4	NA	< 1.1	5.5	1.6	< 3.0 UJ
Dup-2	B-4	D-14	Arcadis	All	24-hrs	During	8/31/2017	RAD 130	< 0.88	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.4	NA	< 1.2	< 0.98	2.3	< 3.0 UJ
Dup-1	B-3	F-16	Arcadis	All	28-days	During	8/13/2017 - 9/11/2017	RAD 130	< 0.031	< 0.12 UJ	0.23 J	< 0.080 UJ	< 0.036 UJ	0.27	NA	0.091	6.4	1.7	< 0.11 UJ
Dup-1	B-3	F-16	Arcadis	All	24-hrs	After	9/27/2017	RAD 130	< 0.90	< 3.6 UJ	< 1.1 UJ	< 2.3 UJ	< 1.0 UJ	< 3.5	NA	< 1.2	6.8	1.5	< 3.1 UJ
Dup-1	B-3	F-16	Arcadis	All	28-days	After	9/11/2017 - 10/9/2017	RAD 130	< 0.032	< 0.13 UJ	0.32 J	< 0.083 UJ	< 0.038 UJ	0.29	NA	0.26	6.7	1.9	< 0.11 UJ

Notes:

‡	Sample duration is approximate.
⁋	Sample duration occurred prior to the operation of the SSDS, during the operation of the SSDS, or after the shutdown of the SSDS.
*	Laboratory inadvertently prepared samples for RAD 130 analysis.
**	Samples 105 QK and 109 QK were inadvertently switched.
₮	Samples collected May 2017 at B-4, B-6 and B-9 follow Program A sampling
₮₮	Samples collected May 2017 at A-5, B-3 and B-8 follow Program C sampling
C	Estimated concentration due to calculated sampling rate.
E	The compound was quantitated above the calibration range.
J	The compound was positively identified; however, the associated numerical value is an estimated concentration only.
(J)	The compound was positively identified; however, the associated numerical value is an estimated concentration only because the reported concentrations are greater than the instrument calibration range.
RAD 130	Samples collected in Radiello 130 passive samples and analyzed by solvent panel scan by gas chromatography/mass spectrometry.
RAD 145	Samples collected in Radiello 145 passive samples and analyzed by thermal desorption scan by gas chromatography/mass spectrometry.
TO-15	TO-15 samples collected in 6-liter SUMMA canisters and analyzed by modified U.S. Environmental Protection Agency Method TO-15 gas chromatography/mass spectrometry.
UJ	The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

Abbreviations:

µg/m^3	Micrograms per cubic meter.
DCA	Dichloroethane.
DCE	Dichloroethene.
NA	Not available by Method Radiello 130 Solvent Panel Scan and/or Method Radiello 145 Thermal Desorption.
ND	Not detected by Method Radiello 145 Thermal Desorption. Due to unpublished uptake rates for the compound the quantitation limit cannot be identified.
NU	Detected by Method Radiello 145 Thermal Desorption. Due to unpublished uptake rates for the compound the quantitation limit cannot be identified.
PCE	Tetrachloroethene.
SSDS	Sub-slab depressurization system.
TCA	Trichloroethane.
TCE	Trichloroethene.

APPENDIX B

Analytical Laboratory and Data Validation Reports

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